What is claimed is:

1. An aluminum electrolytic capacitor comprising:

a capacitor element prepared by rolling an anode foil and a cathode foil together with a separator, said capacitor element being impregnated with a driving electrolyte;

an anode lead connected to said anode foil;

a cathode lead connected to said cathode foil;

a tubular metal case having one closed end and the other open end, and containing said capacitor element; and

a sealing member hermetically closing said open end, wherein said anode and cathode leads are bent along an outer surface of said sealing member,

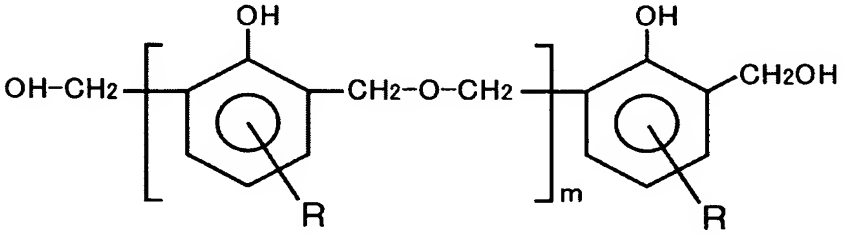
wherein said sealing member is comprised of a rubber composition containing:

a rubber component having ,as a primary constituent, a butyl rubber prepared by crosslinking an isobutylene-isoprene copolymer having an unsaturation degree of 1.2 to 2.5 mol%, with an alkyl-phenol-formaldehyde resin; and

100 to 200 mass parts of reinforcing filler with respect to 100 mass parts of said rubber component,

said rubber composition having a Wallace hardness according to International Rubber Hardness Degree (IRHD) of 80 Hw or more, and a tensile elastic modulus at a solder reflow temperature of 4 N/mm^2 or more.

2. The aluminum electrolytic capacitor as defined in claim 1, wherein said alkyl-phenol-formaldehyde resin is represented by the following general formula (I):



(I)

, wherein R is an alkyl group having 4 to 12 carbon atoms, and m is an integer number ranging from 1 to 10.

3. The aluminum electrolytic capacitor as defined in claim 1, wherein said solder reflow temperature is in the range of 240 to 270°C.

4. The aluminum electrolytic capacitor as defined in claim 1, wherein said rubber composition contains at least one of phenol derivatives and multimer thereof.

5. The aluminum electrolytic capacitor as defined in claim 1, wherein said driving electrolyte is a solution prepared by dissolving at least one solute selected from an organic acid, an inorganic acid, primary to quaternary ammonium salts of said organic acid or said inorganic acid, imidazolium salts of said organic acid or said inorganic acid, imidazolinium salts of said organic acid or said inorganic acid, and an alicyclic pyrimidine compound into at least one solvent selected from ethylene glycol, γ-butyrolactone, propylene carbonate, sulfolane and water.

6. The aluminum electrolytic capacitor as defined in claim 1, wherein each of said anode and cathode foils of said capacitor element has a surface formed with a layer made of an electroconductive polymer.

7. A method of producing an aluminum electrolytic capacitor, comprising:

rolling an anode foil connected to an anode lead and a cathode foil connected to a cathode lead together with a separator to prepare a capacitor element, and impregnating said capacitor element with a driving electrolyte;

inserting said capacitor element into a tubular metal case having one closed end and the other open end;

hermetically closing said open end by a sealing member; and

bending said anode and cathode leads along an outer surface of said sealing member,

wherein said sealing member is comprised of a rubber composition containing:

a rubber component having ,as a primary constituent, a butyl rubber prepared by crosslinking an isobutylene-isoprene copolymer having an unsaturation degree of 1.2 to 2.5

mol%, with an alkyl-phenol-formaldehyde resin; and

100 to 200 mass parts of reinforcing filler with respect to 100 mass parts of said rubber component,

wherein said sealing member is prepared by kneading a mixture comprising said isobutylene-isoprene copolymer, said alkyl-phenol-formaldehyde resin and said reinforcing filler, molding said kneaded mixture under reduced pressure, and then annealing the obtained product to treatment under reduced pressure.